



# UNITED STATES PATENT AND TRADEMARK OFFICE

HC  
UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/611,247	07/07/2000	Jianshe Tang	3899/390001	9312

32588 7590 05/07/2003

APPLIED MATERIALS, INC.  
2881 SCOTT BLVD. M/S 2061  
SANTA CLARA, CA 95050

EXAMINER
----------

ELEY, TIMOTHY V

ART UNIT	PAPER NUMBER
----------	--------------

3724

DATE MAILED: 05/07/2003 18

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/611,247

Applicant(s)

TANG ET AL.

Examiner

Timothy V Eley

Art Unit

3724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-5,9-15 and 19-24 is/are pending in the application.
- 4a) Of the above claim(s) 15 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5,9-14 and 19 is/are allowed.
- 6) ☒ Claim(s) 20-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 3724

DETAILED ACTION

*Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 20-24 are rejected under 35 U.S.C. 102(e) as being anticipated by Custer et al.

a. Custer et al discloses a carrier head, comprising; a retaining ring; a pressurizable chamber; and a fluid-tight flexible membrane with an inner surface that forms a boundary of the pressurizable chamber and configured to substantially prevent relative movement between the membrane and a substrate being polished.

b. Webster's New Collegiate Dictionary defines "rough" as, 1 a: marked by inequalities, ridges, or projections on the surface c (1): having a broken, uneven, or bumpy surface. Regarding claims 21 and 23, the surface may be considered to be "rough" since there is inherently some form of inequalities, ridges, and/or

Art Unit: 3724

projections, even if only microscopic, these features inherently increasing the friction coefficient.

c. Regarding claims 20-24, the flexible membrane is formed of a material having a "high" friction coefficient, since this is a relative term. Also, whether the substrate moves or rotates relative to the membrane would depend upon the material of the substrate, the amount of pressure and/or suction applied to the substrate, etc.

*Allowable Subject Matter*

3. Claims 1-5, 9-14, and 19 are allowed.

4. The following is a statement of reasons for the indication of allowable subject matter:

a. The claims are allowed because the prior art does not teach nor suggest a fluid-type flexible membrane having an outer surface which is rougher than the inner surface. The closest prior art is Custer et al which teaches creating suction points to aid in holding a substrate to a flexible membrane.

*Conclusion*

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy V Eley whose telephone number is 703-308-1824. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Allan N Shoap can be reached on 703-308-1082. The fax phone numbers for the organization where this

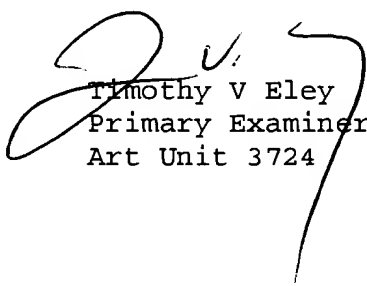
Application/Control Number: 09/611,247

Page 4

Art Unit: 3724

application or proceeding is assigned are 703-872-9302 for regular communications and 703-872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1148.



Timothy V Eley  
Primary Examiner  
Art Unit 3724

tve  
May 5, 2003